GW25-e2373 Persistent lipid abnormalities in statin-treated patients with coronary artery disease in China: part of the Dyslipidemia International Study
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Objectives: To evaluate the prevalence of persistent lipid abnormalities and statin use in Chinese patients with coronary artery disease.

Methods: This cross-sectional observational study consecutively enrolled 9420 out-patients with coronary artery disease in China. ESC/CEAS Guidelines for the management of dyslipidemia and Chinese guidelines on prevention and treatment of dyslipidemia in adults were used to compare the control rate of low density lipoprotein cholesterol, high density lipoprotein cholesterol and triglyceride.

Results: Among the 3437 participants, 33.6% was diagnosed as diabetes mellitus. The percentage of patients with not-at-goal LDL cholesterol was significantly lower in patients with diabetes than those without diabetes (72.7% vs 73.2%, P<0.001). The corresponding values for HDL-C and TG were 42.9% vs 34.2% (P<0.001) and 40.6% vs 35.2% (P<0.001), respectively. Only about 10% patients had optimal LDL-C, HDL-C and TG. Compared with patients without DM, patients with DM were more likely to have mixed dyslipidemia. Atovasstatin (47.0%) and simvastatin (34.4%) were the two most frequently used statin and the average statin dosage was 29.09 mg/dl (simvastatin equivalent). Drug combination with statin to modulate lipid was only 3%.

Conclusions: Although international guideline highly recommends intensive lipid modification in patients with coronary artery disease, persistent dyslipidemia was still prevailing in China, even with statin treatment.

GW25-e0073 To dynamically observe a severe familial hypercholesterolemia child with seven-year follow up in China: a call for action
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Objectives: Familial hypercholesterolemia (FH) is a severe autosomal codominant disorder that is characterized by an elevated concentration of low-density lipoprotein cholesterol (LDL-C) and a high prevalence of premature coronary heart disease. We report clinical cardiovascular data from one case of homoyzygous FH in China after a seven-year study.

Methods: We obtained 50 FH patients with homoyzygous phenotypes who were admitted to Anzhen Hospital between 2005 and 2007 and selected one patient who was diagnosed with severe hyperlipidemia with early symptoms of cardiovascular disease. After diagnosis of FH, we performed exon capture screening methods by using a gene capture chip to genetic analysis and given cholesterol-lowering drugs to treat the patient. Follow-up clinical data were collected over seven years.

Results: Genetic analysis confirmed the diagnosis of compound heterozygous FH. The patient had mutations in exon 2 Q12X, exon 6 N296T, and exon 6 892delA which may cause severe loss of LDLR function, including endocytosis and degradation in the LDL-R gene. Although the patient’s TC and LDL-C concentrations were reduced by 28% and 6%, respectively, with high concentration of cholesterol-lowering drugs (10mg atorvastatin, 5mg ezetimibe plus 0.5mg probucol per day), both levels remained higher than their target values. Clinical imaging data collected over seven years showed that the left chamber of the patient’s heart was persistently dilated and with mitral insufficiency. Yet, abdominal obesity can affect components of metabolic syndrome such as hypertension and fasting glucose.

Conclusions: Based on prevalences between 1/500 and 1/200, between 14 and 34 million individuals worldwide have FH. In China, there are approximately 2.6 million patients with FH. However, FH patients are underdiagnosed and undertreated in China because both doctors and patients lack knowledge of FH. From our case report, we can found the atherosclerosis has progress quickly in this HoFH child even if the cholesterol-lowering drugs were given. We can image that the Chinese FH population will have poor outcomes if we continue overlook this population, and this will also potentially increasing costs for the country. Therefore, we hope our report will encourage the government to devote more attention to this disease.

GW25-e2435 The relationship between breastfeeding and cardiovascular fitness in 7 to 8 years old children
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Objectives: Based on burden of disease study in Iran, cardiovascular disease is the most important cause of death and disability and proper nutrition in early life is one of important determinant of prolonged health. This study was conducted to investigate the relationship of infant feeding variables with cardiovascular fitness in 7 to 8 years old children.

Methods: In a historical cohort study, 246 children age 7 to 8 years in both sexes were selected. Children have no history of cardiovascular, renal or liver diseases. According to the health lifestyle, nutrition of children in childhood determined and categorized into three groups; children who breastfed more than 6 month, children who breastfed less than 6 month and children which was formula fed and did not breastfeeding. Cardiovascular fitness determined with a treadmill ergometry. Regression analysis in single and a 2-level linear regression models was used for examining the independent relationships of infant-feeding variables, and cardiovascular fitness.

Results: Breastfeeding more than 6 month have a significant relation with cardiovascular fitness (p<0.001). This relation was significant also with control of confounders (birth weight, children BMI, sex, maternal BMI, Physical activity, diet and fat mass).

Conclusions: Results of this study show that breastfeeding increase cardiovascular fitness in children. Cardiovascular fitness and food pattern in childhood is modifiable and attention to breastfeeding is important in children.

GW25-e3216 Prevalence of Metabolic Syndrome among Iranian People Referring to Heart Centre
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Objectives: Metabolic syndrome as a group of cardiovascular risk factors including central obesity, dyslipidemia, hypertension and insulin resistance and an important threat to human health is correlated with obesity. This study was done to determine the prevalence of metabolic syndrome in “healthy heart house” of Shiraz University of Medical Sciences.

Methods: 150 patients from those referring to “healthy heart house” of Shiraz University of Medical Sciences were recruited. Those who were 20-65 years old were included and those with secondary obesity as the result of drugs, genetic or endocrine disorders were excluded. Weight and height were measured for calculating body mass index. Waist circumference was also recorded. Blood pressure was measured and for laboratory measurements, blood samples for participants were taken after an overnight fasting. Plasma glucose, serum HDL-C and triglyceride were analyzed. Presence of metabolic syndrome was determined using ATPIII criteria. SPSS 15 was used for analyzing the data. Results were reported as mean ± SD and percentage for prevalence.

Results: According to the criteria, 37% of the participants had metabolic syndrome. Most of the afflicted participants were obese and overweight. Waist circumference was high in 57 percent of the participants. High serum triglyceride, low HDL-C and hypertension were seen in 54.4%, 0.3% and 37.5% of the participants, respectively.

Conclusions: A high prevalence of metabolic syndrome seen in the study population may be correlated with abdominal obesity. Yet, abdominal obesity can affect components of metabolic syndrome such as hypertension and fasting glucose.

Metabolic Syndromes

GW25-e0873 Lipid-lowering therapy and lipid goal attainment in patients with metabolic syndrome in China: subgroup analysis of the Dyslipidemia International Study-China (DYSIS-China)
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Conclusions: The prevalence of metabolic syndrome among Iranian people referring to heart centre is 37%. The majority of patients were obese and overweight. Waist circumference was high in 57% of the patients. High serum triglyceride, low HDL-C and hypertension were seen in 54.4%, 0.3% and 37.5% of the patients, respectively. A high prevalence of metabolic syndrome seen in the study population may be correlated with abdominal obesity. Yet, abdominal obesity can affect components of metabolic syndrome such as hypertension and fasting glucose.
GW25-c2295

Best single predictor of metabolic syndrome via comparing the predicting ability of various anthropometric and athereogenic parameters among Uighur population in Xinjiang

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Objectives: This study aimed to identify the best single predictor of metabolic syndrome (MetS) by comparing the predicting ability of various anthropometric and athereogenic parameters among Uighur population in Xinjiang, northwest of China.

Methods: 4767 Uighur participants were selected from the Cardiovascular Risk Screening (CRS) which was carried out from October 2007 to March 2010. Anthropometric data, blood pressure, serum concentration of serum total cholesterol, triglyceride, low density lipoprotein cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C) and fasting glucose were documented. Prevalence of MetS and its individual components were confirmed according to IDF criteria. Area under the receiver’s operating characteristic curve (AUC) of each variable for the presence of MetS was compared. The sensitivity (Sen), specificity (Spe), distance in the receiver’s operating characteristic curve (ROC) and cutoffs of each variable for the presence of MetS were calculated.

Results: 23.7% of men had the MetS while 40.1% of women had the MetS in Uighur population in Xinjiang, the prevalence of MetS was significantly different between men and women (P<0.001). In men, the WHR had the highest AUC value (AUC=0.838), it was followed by TG/HDL-C (AUC=0.826), BMI (AUC=0.812), WHR (AUC=0.781) and BA (AUC=0.791). In women, the TG/HDL-C had the highest AUC value (AUC=0.815), it was followed by WHR (AUC=0.780), WHR (AUC=0.730), BMI (AUC=0.719) and BA (AUC=0.699). Similarly, among all 5 anthropometric and athereogenic parameters, the WHR had the shortest ROC distance of 0.32 (Sen=85.40%, Spe=71.60%), the optimal cutoff of WHR was 0.55 in men. In women, TG/HDL-C had the shortest ROC distance of 0.35 (Sen=75.29%, Spe=75.18%), the optimal cutoff of TG/HDL-C was 1.22.

Conclusions: WHR was the best predictor of metabolic syndrome in Uighur men while TG/HDL-C was the best predictor of metabolic syndrome in Uighur women in Xinjiang.

GW25-c4322

Epicardial adipose tissue thickness in patients with metabolic syndrome: A Systematic Review and Meta-analysis

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Objectives: Many clinical imaging studies demonstrated a strong correlation between epicardial adipose tissue (EAT) and metabolic syndrome (MS) over the past decade. However, inconsistent results regarding this were reported in other studies. In our study we performed a meta-analysis to examine whether the patients with MS have an increased EAT thickness measured by echocardiography when compared with control subjects without MS.

Methods: A literature search was performed through PubMed, Ovidsp, and Web of Knowledge (January 1, 2000 to September 30, 2013). Pooled-weighted mean differences (WMD) and 95% confidence intervals (95% CI) were calculated by using randomeffect models. Heterogeneity was assessed by using I^2 and statistics and Cochran’s test between studies.

Results: At last, a total of 13 studies about EAT thickness measured by echocardiography were identified, which included 956 had MS and 1108 were controls without MS. EAT thickness was more increased in patients with MS than controls without MS, the summary WMD of EAT thickness was 1.37mm (95% CI 1.09-1.64, P<0.0001). Moderate heterogeneity was detected among the identified groups (Cochran’s Q=42.1 and I^2=69.1%). Meta-regression analysis found that waist-to-hip ratio (P=0.037) was a factor for heterogeneity. Egger’s test found no evidence of bias (P=0.087), as did the Begg’s test statistic (P=0.91). Subgroup meta-analysis indicated that the summary WMD of EAT thickness was 1.36mm (95% CI 1.08-1.63, P<0.001) at end-diastole versus echocardiography, but the summary WMD of EAT thickness was 1.85mm (95% CI 0.26-3.96, P=0.018) at end-systole.

Conclusions: EAT recognized visceral fat is influenced easily by MS. EAT thickness measured by echocardiography become increased in patients with MS. However, the differences exist between end-systole and end-diastole.

GW25-c4416

Apollipoprotein E gene polymorphism and risk for coronary heart disease in the Chinese population: A meta-analysis of 61 studies including 6634 cases and 6393 controls

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Objectives: To evaluate the association between Apolipoprotein E (ApoE) genotypes and coronary heart disease (CHD) risk in the Chinese population.

Methods: We performed a meta-analysis by searching PubMed, Elsevier, Scopus, Cochrane, and China National Knowledge (January 1, 2000 to September 30, 2013). The pooled Relative Risk (RR) was calculated using a random-effects model. Heterogeneity was assessed by using I^2 and Cochran’s Q test between studies.

Results: A total of 61 studies including 6634 cases and 6393 controls were included. Heterogeneity was detected among the identified groups (Cochran’s Q=55.8 and I^2=71.4%). Meta-regression analysis found that age (P=0.019) was a factor for heterogeneity. Egger’s test found no evidence of bias (P=0.91). Subgroup analysis indicated that the summary RR of ApoE4 carriers compared with AA genotypes was 2.09 (95% CI 1.90-2.32) at end-diastole versus echocardiography, but the summary RR of ApoE4 carriers compared with AA genotypes was 1.85 (95% CI 1.56-2.18) at end-systole.

Conclusions: ApoE4 carriers have a higher risk of CHD compared with ApoE2/2 carriers in the Chinese population.